

Stay in ICU means fewer patients likely to renew prescriptions after discharge

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Patients often do not renew prescriptions for their chronic diseases after they are released from hospital.

The number is even lower if the patient spent time in an [intensive care unit](#), according to a new study by researchers at St. Michael's Hospital and the Institute for Clinical Evaluative Studies.

"If you don't continue your medication after hospital, that can have consequences, such as hospital readmissions, visits to the [emergency department](#) and, in rare cases, death," said Dr. Chaim Bell, the lead researcher.

Dr. Bell examined data for nearly 400,000 Ontario residents over the age of 66 who were prescribed one of five common medications for chronic diseases between 1997 and 2009. Just under half of them – 187,912 – were hospitalized during that time and of those, 16,474 were admitted to an ICU.

The results of the study appear in the current issue of the *Journal of the American [Medical Association](#) (JAMA)*.

He found that as many as 19 per cent of patients did not renew their [prescriptions](#) for one of those drugs within 90 days of being discharged from hospital. That number rose to nearly 23 per cent among patients who spent time in an ICU.

He said that might be because the ICU is focused on acute care rather than treatment of [chronic diseases](#) and the practice of temporarily discontinuing many medications for chronic illness during a critical illness. "The deliberate suspension of certain medications for resuscitation is often required, which later may be forgotten or overlooked upon discharge," he said.

As well, patients treated in the ICU are generally sent to a hospital ward for further recovery before being sent home, so there is an additional handoff of care where errors can occur.

The five medications studied are all commonly prescribed for older people and are proven therapies with known long-term results:

- statins (used to lower cholesterol)
- antiplatelet or anticoagulant agents that prevent blood clots such as clopidogrel or warfarin
- levothyroxine, a hormone replacement for people with thyroid problems
- respiratory inhalers
- gastric-acid suppressing drugs such as histamine 2 blockers and proton pump inhibitors

The highest rate of discontinuation was for antiplatelets—19.4 per cent for people who had been hospitalized and 22.8 percent for those who spent time in the ICU, compared to 11.8 per cent for the control group.

The lowest rate of discontinuation was for respiratory inhalers. Only 4.5 per cent of people who had been hospitalized and 5.4 per cent of ICU patients failed to renew their prescriptions. The number was 3 per cent for the control group.

The impact of discontinuing the medications also differs. Discontinuing a proton pump inhibitor intended to reduce the production of gastric acid could result in gastrointestinal tract symptoms such as nausea, heartburn, vomiting or constipation, or even a peptic ulcer. However, a patient with atrial fibrillation, an abnormal heart rhythm, who stopped taking warfarin would be at increased risk of suffering a stroke.

Dr. Bell said possible solutions included better communication among caregivers when patients are transferring from one part of the hospital to another or from a [hospital](#) to home or a long-term care facility. He said hospitals also needed to improve their computer systems or paper records to ensure patients are sent home with the proper prescriptions.

He said patients also need to be an active participant in ensuring they have all their chronic illness medications at the time of discharge and their first post-discharge appointment with their primary care provider.

Previous research in this area has focused on a single health care centre and a broad range of medications. This is the largest study of its kind in terms of patient data and number of hospitals. It's also the first to focus only on important medications for chronic illnesses and the first to note the higher rate of prescription non-renewal for ICU [patients](#).

Provided by St. Michael's Hospital

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